

(12)特許協力条約に基づいて公開された国際出願

(19) 世界知的所有権機関
国際事務局



(43) 国際公開日
2004年10月7日 (07.10.2004)

PCT

(10) 国際公開番号
WO 2004/086515 A1

(51) 国際特許分類⁷: H01L 31/02, G02B 5/28, H01L 27/14

[JP/JP]; 〒4688502 愛知県名古屋市天白区塩釜口1-501 名城大学理工学部内 Aichi (JP).

(21) 国際出願番号: PCT/JP2004/003993

(74) 代理人: 北村 修一郎 (KITAMURA, Shuichiro); 〒5310072 大阪府大阪市北区豊崎五丁目8番1号 Osaka (JP).

(22) 国際出願日: 2004年3月23日 (23.03.2004)

日本語

(25) 国際出願の言語: 日本語

日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:
特願2003-082589 2003年3月25日 (25.03.2003) JP

(81) 指定国(表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) 出願人(米国を除く全ての指定国について): 大阪瓦斯株式会社 (OSAKA GAS CO., LTD.) [JP/JP]; 〒5410046 大阪府大阪市中央区平野町四丁目1番2号 Osaka (JP).

(84) 指定国(表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

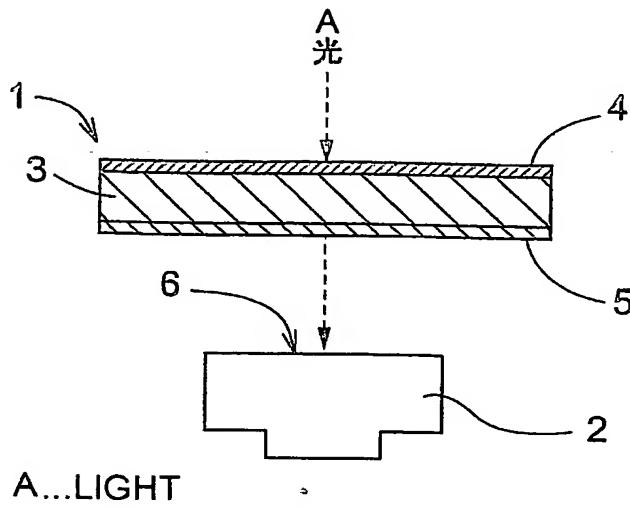
(72) 発明者: および
(75) 発明者/出願人(米国についてのみ): 平野光 (HIRANO, Akira) [JP/JP]; 〒5410046 大阪府大阪市中央区平野町四丁目1番2号 大阪瓦斯株式会社内 Osaka (JP). 上山智 (KAMIYAMA, Satoshi) [JP/JP]; 〒4688502 愛知県名古屋市天白区塩釜口1-501 名城大学理工学部内 Aichi (JP). 天野浩 (AMANO, Hiroshi) [JP/JP]; 〒4688502 愛知県名古屋市天白区塩釜口1-501 名城大学理工学部内 Aichi (JP). 赤崎勇 (AKASAKI, Isamu)

添付公開書類:
— 國際調査報告書

(続葉有)

(54) Title: FILTER FUNCTION-EQUIPPED OPTICAL SENSOR AND FLAME SENSOR

(54) 発明の名称: フィルタ機能付き光センサ及び火炎センサ



(57) Abstract: A filter function-equipped optical sensor comprising a filter device (1) and a light receiving device (2), in order to provide a filter device capable of retaining stable optical characteristics over an extended period and an optical sensor using it, wherein a first interference filter structure (4) constituting the filter device (1) and consisting of a plurality of laminated light transmission layers is deposited on the surface of a color glass filter (3), and the light receiving device (2) is provided with a semiconductor light receiving element structure having a single or a plurality of semiconductor layers, with a single or a plurality of semiconductor layers in the semiconductor light receiving element structure being formed with light receiving areas and a single or a plurality of semiconductor layers involved in the formation of light receiving areas containing $In_xAl_yGa_{1-x-y}N$ ($0 \leq x \leq 0.21$, $0 \leq y \leq 1$).

(57) 要約: 長期間にわたって安定した光学特性を保持することのできるフィルタ装置を提供し、それを用いた光センサを提供するため、フィルタ装置(1)と受光装置(2)とを備えてなるフィルタ機能付き光センサ

WO 2004/086515 A1

であって、フィルタ装置(1)を構成する、複数の光透過層が積層されてなる第1干渉フィルタ構造(4)が、色ガラスフィルタ(3)の表面上に堆積され、受光装置(2)が、単数または複数の半導体層を有する半導体受光素子構造を備え、半導体受光素子構造中の単数または複数の半導体層に受光領域が形成され、受光領域の形成に係る単数または複数の半導体層が $In_xAl_yGa_{1-x-y}N$ ($0 \leq x \leq 0.21$, $0 \leq y \leq 1$) を含む。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/003993

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01L31/02, G02B5/28, H01L27/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01L31/00-31/0392, H01L31/08-31/119, G02B5/28,
H01L27/14-27/148

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2003-57111 A (Osaka Gas Co., Ltd.), 26 February, 2003 (26.02.03), Full text; all drawings (Family: none)	1, 3-8 2, 9
Y A	JP 2002-373977 A (Canon Inc.), 26 December, 2002 (26.12.02), Full text; all drawings (Family: none)	2 1, 3-9
Y A	JP 2000-183367 A (Osaka Gas Co., Ltd.), 30 June, 2000 (30.06.00), Full text; all drawings (Family: none)	9 1-8

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent but published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O"	document referring to an oral disclosure, use, exhibition or other means
"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&"	document member of the same patent family

Date of the actual completion of the international search
20 May, 2004 (20.05.04)Date of mailing of the international search report
08 June, 2004 (08.06.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/003993

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category ^a	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 11-153483 A (Osaka Gas Co., Ltd.), 08 June, 1999 (08.06.99), Full text; all drawings (Family: none)	1-9
A	JP 9-181350 A (Mitsubishi Cable Industries, Ltd.), 11 July, 1997 (11.07.97), Claims 1, 2 (Family: none)	1-9
A	JP 2000-147248 A (Canon Inc.), 26 May, 2000 (26.05.00), Claim 5 (Family: none)	3
A	JP 7-20313 A (Omron Corp.), 24 January, 1995 (24.01.95), Full text; all drawings (Family: none)	3